REMARKS

By this amendment, the claims 1, 9, 14 and 15 have been amended for clarification. Claims 1-15 remain in the application. Support for the amendments to the claims can be found the specification and drawings. No new matter has been added. This application has been carefully considered in connection with the Examiner's Action. Reconsideration, withdrawal of the Final Action, and allowance of the application is respectfully requested.

Rejection under 35 U.S.C. §103

Claim 1 recites an opto-electronic input device, wherein the input is formed by detected movements of an object (M), which input device is provided with an optical module comprising at least one laser with a resonant cavity for generating a measurement radiation beam (S), optical means for guiding the radiation beam (S) to a plate (V) close to the object (M), and conversion means for converting radiation from the measurement radiation beam (S), which is reflected by the object (M), into an electric signal, wherein the conversion means are formed by the combination of the resonant cavity of the laser and measurement means for measuring a change in the resonant cavity during operation, which change is caused by interference of the reflected radiation from the measurement radiation beam (S), which penetrates the resonant cavity, and the standing wave in the resonant cavity, and which is representative of a relative movement of the object (M) with respect to the module, wherein the optical module comprises the laser mounted on a carrier plate, and the optical means comprise an optical component mounted on the carrier plate and aligned with the laser, from which optical component the measurement radiation beam (S) emitted by the laser travels to the plate (V) close to the object (M), wherein the plate (V) comprises, close to the object (M), a first portion (V1) that comprises an upper surface of a transparent block-shaped body which is situated within a

projection of the object (M), wherein the transparent block-shaped body (i) is configured to enable passage of the radiation beam (S) upon entering near a lower sidewall and through multiple internal reflections against sidewalls of the transparent block-shaped body to the upper surface of the transparent block-shaped body and (ii) is situated in a fixed position with respect to the carrier plate in that the transparent block-shaped body is mounted onto the carrier plate, as well as a second portion (V2) which is situated within a projection of the object (M) and is movable in a direction perpendicular to the carrier plate, wherein the second portion (V2) comprises signaling means which, in response to movement of the second portion (V2) in the direction perpendicular to the carrier plate, is configured to issue a signal that can be perceived by a user of the device with one of his senses.

Support for the amendments to claim 1 (as well as for claims 9, 14 and 15) can be found in the specification at least in FIGs. 2 and 4.

As presented herein, the claims clearly articulate that which is patentably distinct over the art of record. As described in the specification on page 3, lines 29-34 and page 3, lines 1-2), the embodiments of the present invention effectively overcome "two inherently conflicting requirements, namely that on the one hand, a moveable [transparent] plate is undesirable because, …, it might adversely affect the operation of the opto-electronic device, and, on the other hand, … a rigid [transparent] plate does not provide feedback [tactile or acoustic] to the user" [emphasis added]. In the embodiment as claimed, the plate (V) comprises a first portion (V1) and a second portion (V2), *both* of which are *situated within* a *projection* of the object (M). The first portion (V1) is *stationary*, whereas the second portion (V2) is *movable* (e.g., see the specification at page 4, lines 30-34). In addition, the first portion (V1) comprises an upper surface of a transparent block-shaped body which is configured to enable

passage of the radiation beam (S) upon entering near a *lower sidewall and* through *multiple internal reflections* against *sidewalls* of the transparent block-shaped body to the upper surface of the transparent block-shaped body. As discussed in the specification at least on page 3, lines 17-19, 26-29, and 33-34; and page 8, lines 11-14, the *lengthened* light path created by the multiple reflections against the sidewalls of the transparent block-shaped body advantageously provide a favorable effect on the proper operation of the opto-electronic detection of movement of object M.

Claims 1-5 and 7-15 were rejected under 35 U.S.C. §103(a) as being unpatentable over **Liess et al.** (US 2002/0104957, herein referred to as **Liess**), in view of **Visser** (US 2008/0284734, herein referred to as **Visser**), and further in view of Gordon (EP 1182606A2, herein referred to as **Gordon**). With respect to claim 1, Applicant traverses this rejection on the grounds that these references are defective in establishing a prima facie case of obviousness.

As the PTO recognizes in MPEP § 2142:

> *... The examiner bears the initial burden of factually supporting any prima facie conclusion of obviousness. If the examiner does not produce a prima facie case, the applicant is under no obligation to submit evidence of nonobviousness...*

It is submitted that, in the present case, the examiner has not factually supported a prima facie case of obviousness for the following reasons.

1. Even When Combined, the References Do Not Teach the Claimed Subject Matter

The **Liess**, **Visser**, and **Gordon** references cannot be applied to reject claim 1 under 35 U.S.C. § 103 which provides that:

> *A patent may not be obtained ... if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as*

a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains ... (Emphasis added)

Thus, when evaluating a claim for determining obviousness, all limitations of the claim must be evaluated. However, since neither **Liess**, **Visser**, nor **Gordon** teaches an opto-electronic device featuring: "... a plate (V) comprising ... a *first portion* (V1) that comprises an *upper surface* of a transparent block-shaped body ... wherein the *transparent block-shaped body* [is] ***(i) ...*** configured to enable passage of the radiation beam (S) upon entering near a *lower sidewall* and through *multiple internal reflections* against sidewalls of the transparent block-shaped body to the upper surface of the transparent block-shaped body and ***(ii)*** ... situated in a *fixed position* ... mounted onto the carrier plate, ... *[and]* ... a *second portion* (V2) ... *movable* in a direction perpendicular to the carrier plate, wherein the *second portion* (V2) comprises *signaling means* which, in response to movement of the second portion (V2) in the direction perpendicular to the carrier plate, is *configured to issue a signal* that can be perceived by a user of the device with one of his senses" (emphasis added) as is claimed in claim 1, it is impossible to render the subject matter of claim 1 as a whole obvious, and the explicit terms of the statute cannot be met.

In contrast, **Liess** discloses an optical input device in which side emitting diode lasers are mounted in such a way that they radiate in the vertical direction (See Liess at paragraph [0111], lines 3-4). In another embodiment of **Liess**, horizontally emitted beams from the laser diodes are reflected in the vertical direction through a lens (*i.e., a bottom surface of the lens*) towards a window at a top of the device (See Liess at paragraph [0111], lines 17-22) (*emphasis added*). Accordingly, the device of **Liess** does not teach or suggest "... a transparent block-shaped body ... ***(i) ...*** configured to enable passage of the radiation beam (S) upon entering near a *lower sidewall* and through *multiple internal reflections* against sidewalls of the transparent block-shaped body to

the upper surface of the transparent block-shaped body and ***(ii)*** … situated in a *fixed position* … mounted onto the carrier plate, … *[and]* … a *second portion* (V2) … *movable* in a direction perpendicular to the carrier plate, wherein the *second portion* (V2) comprises *signaling means* which, in response to movement of the second portion (V2) in the direction perpendicular to the carrier plate, is *configured to issue a signal* that can be perceived by a user of the device with one of his senses" (emphasis added) as is claimed in claim 1.

In further contrast, **Visser** discloses a mobile phone with a user interface having a first input device and a second input device. The first input device comprises an optical sensor unit having an input window. The second input device comprises a designated key of a keyboard and is separate from the first input device. The first input device is configured to provide a diode signal indicative of a click movement in response to "a fast movement in the z-direction of the finger 215 toward the window, a window touch of the finger and a fast retracting of the finger from the window" (see Visser, paragraph [0025], lines 13-15 and paragraph [0026], lines 5-8). A processor processes the "click movement" signal as a *first* type of click signal. In response to a click movement from the first input device, and a contemporaneous signal from a user's pressing of the second input device, the processor processes the combination as a *second* type of click signal (see Visser, paragraph paragraph [0026], lines 9-16). Accordingly, **Visser** does not teach or suggest "… a transparent block-shaped body … situated *within a projection* of the object (M) ***… (i) …*** configured to enable passage of the radiation beam (S) upon entering near a *lower sidewall* and through *multiple internal reflections* against sidewalls of the transparent block-shaped body to the upper surface of the transparent block-shaped body and ***(ii)*** … situated in a *fixed position* … mounted onto the *carrier plate*, … *[and]* … a *second portion* (V2) … situated *within a projection* of the object (M) … *movable* in a direction perpendicular to the *carrier plate*, wherein the *second portion* (V2) comprises *signaling means* which, in response to movement of the

second portion (V2) in the direction perpendicular to the carrier plate, is *configured to issue a signal* that can be perceived by a user of the device with one of his senses" (emphasis added) as is claimed in claim 1.

In yet further contrast, **Gordon** discloses a four axis optical mouse having an imaging surface of an optical stud in which "pressing on the *optical stud* 11 was accompanied by a slight *motion* to provide tactile feedback" (see Gordon at paragraph [0013], lines 12-14). Accordingly, **Gordon** teaches movement of the optical stud which *teaches away* from a first portion (V1) that is *stationary* as in claimed in claim 1 of the present application, further as discussed herein above. In addition, **Gordon** does not teach or suggest "... a transparent block-shaped body ... situated *within a projection* of the object (M) ***... (i) ...*** configured to enable passage of the radiation beam (S) upon entering near a *lower sidewall* and through *multiple internal reflections* against sidewalls of the transparent block-shaped body to the upper surface of the transparent block-shaped body and ***(ii)*** ... situated in a *fixed position* ... mounted onto the *carrier plate*, ... *[and]* ... a *second portion* (V2) ... situated *within a projection* of the object (M) ... *movable* in a direction perpendicular to the *carrier plate*, wherein the *second portion* (V2) comprises *signaling means* which, in response to movement of the second portion (V2) in the direction perpendicular to the carrier plate, is *configured to issue a signal* that can be perceived by a user of the device with one of his senses" (emphasis added) as is claimed in claim 1.

Thus, for this reason, the examiner's burden of factually supporting a *prima facie* case of obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

2. Prior Art That Teaches Away From the Claimed Invention Cannot be Used to Establish Obviousness

In the present case the **Gordon** reference, by providing an optical stud in which "pressing on the *optical stud* 11 was accompanied by a slight *motion* to provide tactile feedback" (see Gordon at paragraph [0013], lines 12-14) is directed to a system in which the optical body undergoes movement. As recited in claim 1, a first portion (V1) of plate (V) comprises an upper surface of a transparent block-shaped body that is "situated in a fixed position." Thus, **Gordon** clearly teaches away from claim 1, recited above.

Since it is well recognized that teaching away from the claimed invention is a per se demonstration of lack of prima facie obviousness, it is clear that the examiner has not borne the initial burden of factually supporting any prima facie conclusion of obviousness.

Thus, for this reason, the examiner's burden of factually supporting a prima facie case of obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

3. The Combination of References is Improper

Assuming, arguendo, that the above arguments for non-obviousness do not apply (which is clearly not the case based on the above), there is still another compelling reason why the **Liess**, **Visser** and **Gordon** references cannot be applied to reject claim 1 under 35 U.S.C. §103.

§ 2142 of the MPEP also provides:

> *...the examiner must step backward in time and into the shoes worn by the hypothetical 'person of ordinary skill in the art' when the invention was unknown and just before it was made.....The examiner must put aside knowledge of the*

applicant's disclosure, refrain from using hindsight, and consider the subject matter claimed 'as a whole'.

Here, neither **Liess**, **Visser** nor **Gordon** teaches, or even suggests, the desirability of the combination since neither teaches the specific opto-electronic device featuring "… a plate (V) comprising … a *first portion* (V1) that comprises an *upper surface* of a transparent block-shaped body … situated *within a projection* of the object (M) ***…*** wherein the *transparent block-shaped body* [is] ***(i) …*** configured to enable passage of the radiation beam (S) upon entering near a *lower sidewall* and through *multiple internal reflections* against sidewalls of the transparent block-shaped body to the upper surface of the transparent block-shaped body and ***(ii)*** … situated in a *fixed position* … mounted onto the carrier plate, … *[and]* … a *second portion* (V2) … situated *within a projection* of the object (M) ***…*** *movable* in a direction perpendicular to the carrier plate, wherein the *second portion* (V2) comprises *signaling means* which, in response to movement of the second portion (V2) in the direction perpendicular to the carrier plate, is *configured to issue a signal* that can be perceived by a user of the device with one of his senses" as specified above and as claimed in claim 1.

Thus, it is clear that neither patent provides any incentive or motivation supporting the desirability of the combination. Therefore, there is simply no basis in the art for combining the references to support a 35 U.S.C. § 103 rejection.

In this context, the MPEP further provides at § 2143.01:

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.

In the above context, the courts have repeatedly held that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination.

In the present case it is clear that the combination as suggested by the office action arises solely from hindsight based on the invention without any showing, suggestion, incentive or motivation in either reference for the combination as applied to claim 1. Therefore, for this reason, the examiner's burden of factually supporting a *prima facie* case of obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

Accordingly, claim 1 is allowable and an early formal notice thereof is requested. Dependent claims 2-5, 7-13 and 15 depend from and further limit independent claim 1 and therefore are allowable as well.

Independent claim 14 has been amended herein to include limitations similar to those of claim 1. Accordingly, claim 14 is believed allowable for at least the same reasons as presented herein above with respect to overcoming the rejection of claim 1, and an early formal notice thereof is requested.

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over over **Liess - Visser- Gordon** in view of **Wenstrand** et al. (US 2004/0155860, herein after referred to as **Wenstrand**). Applicant respectfully traverses this rejection for at least the following reason. Dependent claim 6 depends from and further limits independent claim 1 and therefore is allowable as well.

Conclusion

Except as indicated herein, the claims were not amended in order to address issues of patentability and Applicants respectfully reserve all rights they may have under the Doctrine of Equivalents. Applicants furthermore reserve their right to reintroduce

subject matter deleted herein at a later time during the prosecution of this application or a continuation application.

It is clear from all of the foregoing that independent claims 1 and 14 are in condition for allowance. Dependent claims 2-13 and 15 depend from and further limit independent claim 1 and therefore is allowable as well.

The amendments herein are fully supported by the original specification and drawings; therefore, no new matter is introduced. Withdrawal of the Final Action and an early formal notice of allowance of claims 1-15 is requested.

Respectfully submitted,

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